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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,534	08/22/2003	Klaus Gunter	02P15129	8102
24252	7590	05/16/2005	EXAMINER	
OSRAM SYLVANIA INC 100 ENDICOTT STREET DANVERS, MA 01923			LEURIG, SHARLENE L	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/645,534	GUNTER, KLAUS	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sharlene Leurig	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>082203</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. However, the cover page of the German application is not in the file. Applicant is requested to provide a copy of the cover page of the German application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recites the limitation "the cylindrical section" in line 3. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 5, 6, 8 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hendricx et al. (6,404,129) (of record).

Regarding claim 1, Hendricx discloses a high-pressure discharge lamp comprising a discharge vessel (3) having a tubular section of a transparent ceramic (column 3, lines 59-60) with an internal diameter of 2.0 mm or less (column 1, lines 52-54). There are two electrodes (4 and 5) that generate a gas discharge enclosed gastightly in the discharge vessel and arranged opposite each other with discharge ends facing each other, the distance between the two discharge-side ends separated from each other by less than 10 mm (column 1, lines 52-54). The discharge vessel encloses a mercury-free fill of xenon with a cold filling pressure greater than 2000 hPa (column 3, lines 34-42) and also includes metal halides (column 3, lines 14-32).

Regarding claim 5, Hendricx discloses the tubular section of the discharge vessel to consist of yttrium aluminum garnet (column 1, lines 32-36).

Regarding claim 6, Hendricx discloses an opaque (column 2, lines 62-66) coating (41 and 51) formed on part of the outer surface of the discharge vessel.

Regarding claim 8, Hendricx discloses the discharge vessel (3) being surrounded by an outer bulb (1).

Regarding claim 10, Hendricx discloses metal halides including sodium and dysprosium (column 3, lines 14-32).

Regarding claim 11, Hendricx discloses metal iodides including sodium iodide and dysprosium iodide, the total quantity of iodide resulting in light having a color

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temperature falling within the claimed range of 3500 K to 5000 K (column 3, lines 14-32).

Regarding claim 12, Hendricx discloses a coating of platinum (column 2, line 65), which is a metal and therefore is thermally conductive.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricx et al. (6,404,129) (of record) in view of Scott et al. (6,126,889).

Hendricx discloses a high pressure discharge lamp having all the limitations of claim 1, as discussed above, and further discloses a tubular section of the discharge vessel being formed of polycrystalline sapphire (column 1, lines 32-36).

Regarding claim 2, Hendricx fails to exemplify a tubular section formed of single-crystalline sapphire.

Scott teaches a discharge vessel for a high-pressure lamp in a tubular configuration and formed of single-crystalline sapphire (column 2, lines 32-33). Scott teaches single-crystalline sapphire as preferable to polycrystalline sapphire for its increased transmission characteristics, which results in improved lamp performance (column 1, lines 21-34).

Therefore regarding claim 2, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the discharge vessel of Hendricx to have a tubular section formed of single-crystalline sapphire rather than polycrystalline sapphire in order to improve the transmission of the lamp tube and thereby improve the performance of the lamp, as taught by Scott.

Regarding claim 3, Hendricx discloses closure pieces (34 and 35) made from ceramic (column 4, line 7) and provided with supply conductors (8 and 9) for the electrodes (4 and 5).

Hendricx fails to exemplify the ceramic material of the closure pieces or the closure pieces receiving the ends of the tubular section.

Scott teaches that the use of single-crystalline sapphire for the tubular section of a discharge vessel rather than polycrystalline sapphire requires different sealing methods and sealing structure (column 1, lines 35-49). Scott teaches a sealing structure having closure pieces (14) of polycrystalline alumina (column 2, lines 44-45) provided with supply conductors (36) for the electrodes (38), the closure pieces each having a recess for receiving one end of the tubular section (12), the internal dimensions of the recesses being matched to the external diameter of the corresponding end of the tubular section. The closure pieces are fixed to the corresponding end of the tubular section by a sintered joint (column 3, lines 34-67).

Therefore regarding claim 3, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the discharge vessel of Hendricx to have a tubular section formed of single-crystalline sapphire rather than polycrystalline sapphire in order to improve the transmission of the lamp tube and thereby improve the performance of the lamp, and to further modify the lamp of Hendricx to have polycrystalline alumina closure pieces with recesses for receiving the end portions of the tubular section and sintered to the tubular section in order to provide a strong seal for the single-crystalline sapphire tube, as taught by Scott.

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Regarding claim 4, Hendricx discloses an opaque (column 2, lines 62-66) coating (41 and 51) formed on a part of the outer surface of the closure pieces.

Regarding claim 7, Hendricx discloses a coating of platinum (column 2, line 65), which is a metal and therefore is thermally conductive.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricx et al. (6,404,129) (of record) in view of Dobruskin et al. (4,717,852).

Hendricx discloses a high-pressure discharge lamp having all the limitations of claim 8, as discussed above, including an outer bulb surrounding the discharge vessel.

Hendricx fails to exemplify the outer bulb being evacuated.

Dobruskin teaches a halide lamp having a discharge vessel (2) surrounded by an outer bulb (4) that is evacuated in order to prevent conduction of heat from the discharge vessel to the outside (column 3, lines 43-46).

Therefore regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the discharge lamp of Hendricx to have an evacuated outer bulb in order to prevent heat conduction to the outside of the lamp, as taught by Dobruskin.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (571) 272-2455. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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